REMARKS

The Office Action dated December 1, 2004 and the Advisory Action dated February 9, 2005 have been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 18 and 19 have been added. Claims 9, 13, and 17 have been canceled without prejudice. No new matter has been added. Claims 18 and 19 are currently pending in the application and are respectfully submitted for consideration.

In the Office Action, claims 9 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by Ashley (U.S. Patent No. 5,528,630). Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Ashley in view of Broyde (U.S. Patent No. 4,794,353). The Office Action took the position that Ashley discloses all of the elements of claim 17, with the exception of part of the impedance converting means being implemented by adding at least one resistor element to the network in parallel with capacitors and inductors of the low pass filter. The Office Action then relied on Broyde as allegedly curing this deficiency in Ashley. Applicants respectfully submit that claims 18 and 19 recite subject matter which is neither disclosed nor suggested by the cited prior art references.

Claim 18 recites a method for implementing narrowband and broadband services on a transmission link of a telecommunications network. The method includes the steps of transferring signals belonging to a narrowband service in a first frequency range below a given threshold frequency and signals belonging to a broadband service in a second

frequency range above said threshold frequency in the transmission link, and separating signals relating to the narrowband service in a passive low-pass filter block connected between the transmission link and a single discrete active impedance converting means. The method further includes receiving the signals relating to the narrowband service from the passive low-pass filter block in the discrete active impedance converting means, the discrete active impedance converting means located entirely between the passive low-pass filter block and a first interface. The method also includes the steps of matching impedance of the first interface to a characteristic impedance of the transmission link in the discrete active impedance converting means, wherein matching is conducted without external control entirely after the step of separating the signals relating to the narrowband service, and separating signals relating to a broadband service in a high-pass filter unit connected between the transmission link and a second interface.

Claim 19 recites a splitter element in a telecommunications system for separating signals transferred in different frequency ranges. The splitter element includes a line port connected to a transmission link, the transmission link configured to transfer signals belonging to a narrowband service in a first frequency range below a given threshold frequency and signals belonging to a broadband service in a second frequency range above the threshold frequency. The splitter element further includes a passive low-pass filter block connected between the line port and a discrete active impedance converting means and configured to separate signals relating to the narrowband service. The discrete active impedance converting means for adapting a first interface to a characteristic

impedance of the transmission link, the first interface being intended for signals relating to narrowband service, wherein the discrete active impedance converting means locates entirely between the passive low-pass filter block and the first interface and is configured to conduct the adapting without external control entirely after separating the signals relating to narrowband service in the passive low-pass filter block. The splitter element also includes a high-pass filter connected between the line port and a second interface and configured to separate signals relating to the broadband service, the second interface being intended for signals transferred in a higher frequency range.

The present invention is directed to conservation of the Plain Old Telephony System (POTS) service in presence of broadband services provided by DSL technologies. As discussed in the specification, POTS and DSL are able to share the same telephony line by the aid of POTS filters/splitters.

As will be discussed below, the prior art references of Ashley and Broyde fail to disclose all of the elements of the claims, and therefore fail to provide the features discussed above.

Ashley discloses a coupler for communication systems which utilize more than one frequency band. Voice signals coupled in a first frequency band 104 and data signals coupled in a second frequency 105 band are communicated between central office 101 and customer premises 102 via the tip and ring leads of communications path 103 (Ashley, Column 2, lines 33-41). Signals from tip and ring leads are received in an isolation transformer 202, which is connected to a low pass filter 203 and a high pass

filter 201 (Ashley, Figure 2). According to the embodiment illustrated in Figure 5 of Ashley, two generalized impedance converter (GIC) blocks 501 and 502 are provided in the low pass filter 312 at each end (Ashley, Figure 5). Applicants note that the embodiments illustrated in Figures 6 and 7 of Ashley do not include any GIC blocks.

Broyde discloses a dissipative low-pass filter. The filter includes a first series branch, located between a first input and a first output and formed by an inductance coil in parallel a first resistor. The filter further includes a second parallel branch, located between the first output and a second output, itself connected to a second input, and formed by a capacitor fitted in series with a second resistor, the values of the inductance coil L, of the capacitor C and of the resistors R1 and Rc respectively in parallel with the inductance coil and in series with the capacitor being chosen in such a way that the minimum attenuation M of the filter is fixed at a predetermined value.

Applicants respectfully submit that Ashley and Broyde, whether viewed singly or in combination, fail to disclose or suggest discrete active impedance converting means located entirely between the passive low-pass filter block and a first interface and configured to conduct the matching without external control entirely after separating the signals relating to the narrowband service, as recited in the present claims.

According to the present invention, only one GIC block, specifically the GIC block located between the passive filter and the POTS transceiver is sufficient to implement the whole impedance correction function. A second GIC block located between the passive filter and the subscriber line, on the other hand, is not required. This

is due to the fact that the echo is generated by the unbalance seen by a terminating device (e.g. a telephone or a line card at the central office), whereas there is no one on the subscriber line looking at the filters from the subscriber line direction. As such, the claimed invention provides a single GIC block located entirely between the terminating device and the passive filter core (Specification, page 7, lines 7-16, page 9, lines 9-24, Figure 7). No other GIC block is needed. Such a configuration results in reduced power consumption and also minimizes the size and price of the filter. Applicants respectfully submit that Ashley fails to disclose or suggest such a limitation.

According to Ashley, two GIC blocks 501 and 502 are provided **in** the low-pass filter 312 at each end thereof (Ashley, Figure 5). Such a configuration corresponds to the prior art solution discussed in the present specification on page 5, line 29 to page 6, line 6, and does not correspond to the apparatus and method of the claimed invention. Ashley does not disclose or suggest that the discrete active impedance converting means is located entirely between the passive low-pass filter block and a first interface. Therefore, Ashley fails to disclose or suggest the discrete active impedance converting means of the present invention. Broyde also fails to disclose or suggest such a limitation.

Applicants respectfully submit that Ashley and Broyde, whether viewed alone or in combination, fail to disclose or suggest critical and important elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 18 and 19 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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